

2. The purine nucleotide of claim 1, wherein the purine is adenine.
3. The purine nucleotide of claim 1, wherein the substituent is an ether, thioether or an amine.
4. The purine nucleotide of claim 2, wherein the substituent is an ether, thioether or an amine.
5. The purine nucleotide of claim 1, wherein the substituent is an ether, and wherein the ether substituent has the structure:  
-O-X.
6. The purine nucleotide of claim 5, wherein X is an alkyl group.
7. The purine nucleotide of claim 6, wherein X is selected from the group consisting of:
  - (a)  $C_7H_{13}$  (cycloheptyl)
  - (b)  $(CH_3)_3CCH_2$
  - (c)  $CH_3(CH_2)_n$ , wherein  $1 \leq n \leq 5$
8. The purine nucleotide of claim 1, wherein the substituent is a thioether, and wherein the thioether substituent has the structure:  
-S-X.
9. The purine nucleotide of claim 8, wherein X is an alkyl group.
10. The purine nucleotide of claim 9, wherein X is selected from the group consisting of:
  - (a)  $C_7H_{13}$  (cycloheptyl)

(b)  $(\text{CH}_3)_3\text{CCH}_2$

(c)  $\text{CH}_3(\text{CH}_2)_n$ , wherein  $1 \leq n \leq 5$

11. The purine nucleotide of claim 1, wherein the substituent is an amine, and wherein the amine substituent has the structure:

$-\text{NH}-\text{X}$ .

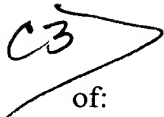
12. The purine nucleotide of claim 11, wherein X is an alkyl group.

13. The purine nucleotide of claim 12, wherein X is selected from the group consisting of:

(a)  $\text{C}_7\text{H}_{13}$  (cycloheptyl)

(b)  $(\text{CH}_3)_3\text{CCH}_2$

(c)  $\text{CH}_3(\text{CH}_2)_n$ , wherein  $1 \leq n \leq 5$

Sub C3  14. The purine nucleotide of claim 1 selected from the group consisting of:

compound 6a, compound 6b, compound 6c, compound 6d, compound 6e, compound 7a, compound 7b, compound 7c, compound 7d, compound 7e, compound 8a, compound 8b, compound 8c, compound 8d, and compound 8e.

15. A method for modulating the activity of an NTPDase enzyme comprising exposing the enzyme to the purine nucleotide according to claim 1.

16. The method according to claim 15 wherein the activity of the NTPDase enzyme is inhibited.

17. A method for modulating the level in a biological system of:

- (a) a purine nucleotide;
- (b) a purine nucleoside;
- (c) a metabolite or derivative of (a) or (b); or
- (d) any combination thereof,

comprising the step of introducing into said system the purine nucleotide according to claim 1.

18. A method for modulating the activity of a biological process in a biological system, wherein said process is affected by the level in said system of:

- (a) a purine nucleotide;
- (b) a purine nucleoside;
- (c) a metabolite or derivative of (a) or (b); or
- (d) any combination thereof,

comprising the step of introducing into said system the purine nucleotide according to claim 1.

19. The method of claim 18, wherein the biological process is aggregation and thrombogenicity.

20. (New) The method of claim 15, wherein said enzyme is in a biological system, and said method results in a modulation of the level in said system of:

- (a) a purine nucleotide;
- (b) a purine nucleoside,
- (c) a metabolite or derivative of (a) or (b); or
- (d) any combination thereof.

21. (New) The method of claim 15, wherein said enzyme is in a biological system, and said method results in a modulation of the activity of a biological process in a said system, wherein said process is affected by the level in said system of:

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- (a) a purine nucleotide;
  - (b) a purine nucleoside;
  - (c) a metabolite or derivative of (a) or (b); or
  - (d) any combination thereof.

22. (New) The method of claim 22, wherein the biological process is aggregation and thrombogenicity.